



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,446	09/08/2003	Michael J. Sullivan	B03-58	4732

7590 04/02/2004

Troy R. Lester  
Acushnet Company  
PO Box 965  
Fairhaven, MA 02719-0965

EXAMINER

HUNTER, ALVIN A

ART UNIT	PAPER NUMBER
----------	--------------

3711

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/658,446

Applicant(s)

SULLIVAN ET AL.

Examiner

Alvin A. Hunter

Art Unit

3711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12, 14-18 is/are rejected.
- 7) ☒ Claim(s) 4 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09/08/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claims 4 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 1 and 10 require the presence of a reactive co-agent. Having no reactive co-agent does not limit what is required for claims 1 and 10.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugimoto et al. (USPN 5935022).

Sugimoto et al. discloses a three-piece golf ball having a core (1), intermediate layer (2) and cover (3) wherein the core comprises

- a) an elastomeric composition (See Columns 2, lines 48 through 60),
- b) a reactive co-agent in an amount of 10 to 30, wherein the term "about" will be defined as any value within +/-1 of the range being claimed (See Column 3, lines 10 through 30), and
- c) a crosslinking agent (See paragraph bridging columns 2 and 3).

In regards to claim 2, the composition comprises a diene rubber (See Columns 2, lines 48 through 60)

In regards to claim 5, the reactive co-agent comprises a metal salt of diacrylate (See Column 3, lines 10 through 30).

In regards to claim 6, the metal is zinc. (See Column 3, lines 10 through 30).

Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Simonutti (USPN 5932661).

Simonutti discloses a three-piece golf ball having a core (17), intermediate layer (18) and cover (19) (See Figure 3) wherein the core comprises

- a) an elastomeric composition (See Paragraph bridging columns 1 and 2),
- b) a reactive co-agent in an amount of about 10 to 50 phr, wherein the term "about" allows for the co-agent to be less than 10 (See column 2, lines 2 and 3), and
- c) a crosslinking agent (See Column 2, lines 12 and 13).

In regards to claim 2, the composition comprises a diene rubber (See Columns 2, lines 8 and 9).

In regards to claim 5, the reactive co-agent comprises a metal salt of diacrylate (See Column 2, lines 10 and 11).

In regards to claim 6, the metal is zinc. (See Column 2, lines 10 and 11).

Claims 1-3, 5-7, 10-12, and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hwang (USPN 5952415).

Hwang discloses a three-piece golf ball having a core (5a), intermediate layer (5b) and cover (5d) (See Figures 4) wherein the core comprises

Art Unit: 3711

- a) an elastomeric composition (See Column 1, lines 62 through 65),
- b) a reactive co-agent in an amount of about 1 to 15 (See Column 2, lines 7 through 12), and
- c) a crosslinking agent (See Column 2, lines 26 through 34).

In regards to claim 2, the composition comprises a diene rubber (See Column 1, lines 62 through 65).

In regards to claim 3, reactive co-agent is in amounts of 1 to 15.

In regards to claim 5, the reactive co-agent comprises a metal salt of diacrylate (See Column 2, lines 7 through 12).

In regards to claim 6, the metal is zinc (See Column 2, lines 7 through 12).

In regards to claim 7, the thin dense layer (5c) has a diameter of 37.5mm, giving the layer a thickness of 1.25mm (See Table 3, example 5).

In regards to claim 10, the intermediate layer (5b) is made a highly neutralized polymer (See Paragraph bridging Columns 3 and 4, and Column 4, lines 8 through 14).

In regards to claim 11, see above regarding claim 2.

In regards to claim 12, see above regarding claim 3.

In regards to claim 14, see above regarding claim 5.

In regards to claim 15, see above regarding claim 6.

In regards to claim 16, see above regarding claim 7.

Claims 1, 2, 5-11, and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Moriyama et al. (USPN 6705956).

Moriyama et al. discloses a four-piece golf ball having a core (1), intermediate layer (2), and cover (4) (See Abstract). The core comprises the following:

- a) an elastomeric composition (see Column 3, lines 37 through 48),
- b) a co-crosslinking agent, or reactive co-agent, in 10 to 35 parts by weight (See Column 3, lines 49 through 67), and
- c) a crosslinking agent (See Column 4, lines 1 through 14).

The intermediate layer (2) comprises a thermoplastic polymer and encases the core (See Figure 1 and Column 5, lines 13 through 20).

In regards to claim 2, the elastomeric composition for the core is polybutadiene, a diene polymer (See Column 3, lines 37 through 48).

In regards to claim 5 and 6, Moriyama et al. discloses the co-agent being zinc acrylate, which is also art recognized to be zinc diacrylate wherein the metal salt is zinc (See Column 3, lines 49 through 67).

In regards to claim 7, Moriyama et al. noted that the golf ball comprises an outer layer (3) between the intermediate layer (2) and cover (4) wherein the outer layer has a thickness of 1.0 to 2.5mm (See Column 7, lines 45 through 49). It is implied that the outer layer is at a radial distance outside a centroid radius of the golf ball.

In regards to claims 8 and 9, the outer layer has specific gravity of 1.1 to 1.5 (See column 27 through 44).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3711

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al. (USPN 6705956) in view of Sullivan et al. (USPN 5971872).

Moriyama et al. discloses a four-piece golf ball having a core (1), intermediate layer (2), and cover (4) (See Abstract). The core comprises the following:

- a) an elastomeric composition (see Column 3, lines 37 through 48),
- b) a co-crosslinking agent, or reactive co-agent, in 10 to 35 parts by weight wherein the term "about" will be defined as any value within +/-1 of the range being claimed (See Column 3, lines 49 through 67), and
- c) a crosslinking agent (See Column 4, lines 1 through 14).

The intermediate layer (2) comprises a thermoplastic polymer and encases the core (See Figure 1 and Column 5, lines 13 through 20).

Moriyama et al. notes that the ionomer, a thermoplastic polymer, used within the intermediate layer may be used alone or with other ionomers but does not disclose having a highly neutralized polymer.

Sullivan et al. discloses a golf ball having a golf ball having an at least partially neutralized ionomer wherein the ionomer exhibits enhanced hardness and COR values (See Column 6, lines 12 through 29). One having ordinary skill in the art would have found it obvious to have a layer containing an at least partially neutralized, including

Art Unit: 3711

fully or highly neutralized, ionomer, as taught by Sullivan et al. in order to enhance the hardness and COR of the golf ball.

In regards to claim 11, the elastomeric composition for the core is polybutadiene, a diene polymer (See Column 3, lines 37 through 48).

In regards to claim 14 and 15, Moriyama et al. discloses the co-agent being zinc acrylate, which is also art recognized to be zinc diacrylate wherein the metal salt is zinc (See Column 3, lines 49 through 67).

In regards to claim 16, Moriyama et al. noted that the golf ball comprises an outer layer (3) between the intermediate layer (2) and cover (4) wherein the outer layer has a thickness of 1.0 to 2.5mm (See Column 7, lines 45 through 49). It is implied that the outer layer is at a radial distance outside a centroid radius of the golf ball.

In regards to claims 17 and 18, the outer layer has specific gravity of 1.1 to 1.5 (See column 27 through 44).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is 703-306-5693. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Garbe, can be reached on 703-308-1207. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 3711

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AAH  
Alvin A. Hunter, Jr.

  
Stephen P. Garbe  
Primary Examiner